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ABSTRACT

This study explored the relationship between self-regulated learning and academic motivation, with the confounding effect of test anxiety removed. High school student participants (N=208) were administered a survey assessing 2 components of motivation (autonomy and competence), self-regulated learning, and test anxiety. Correlational analyses indicated that, overall, students who perceived themselves to be more capable of self-regulated learning also tended to report higher levels of motivation. The self-regulatory to motivation associations did not vary with respect to the motivational component, nor were they affected by test anxiety. Practical applications for efforts aimed at modifying achievement behaviors are discussed. (Contains 2 tables and 14 references.) (Author)

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The Role of Test Anxiety in the Self-Regulated Learning to Motivation Relationship

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Abstract

This study explored the relationship between self-regulated learning and academic motivation, with the confounding effect of test anxiety removed. High school student participants (N = 208) were administered a survey assessing two components of motivation (competence and autonomy), self-regulated learning, and test anxiety. Correlational analyses indicated that, overall, students who perceived themselves to be more capable of self-regulated learning also tended to report higher levels of motivation. The self-regulatory to motivation associations did not vary with respect to the motivational component, nor were they affected by test anxiety. Practical applications for efforts aimed at modifying achievement behaviors are discussed.

The Role of Test Anxiety in the

Self-Regulated Learning to Motivation Relationship

Educators typically want their students to actively participate in the learning process. As a result, much research has focused on student self-regulated learning and its links to various educational outcomes. Although self-regulated learning strategies have been found to positively influence performance (Zimmerman, 1990), mere knowledge of these strategies is often not enough to ensure their use (Pintrich & DeGroot, 1990). Students need to be motivated to pursue self-regulatory activities (Palmer & Goetz, 1988). The interplay between self-regulation and motivation needs to be considered to better understand the student learning process.

One theoretical framework for conceptualizing motivation comes from Deci and Ryan's (1985) self-determination model, which posits that intrinsic motivation varies as a function of sense of competence and perceived self-determining autonomy. In academic settings, increases in either component have been shown to positively influence student motivation (Fortier, Vallerand, & Guay, 1995). Further, highly motivated students are reportedly more likely to use self-regulated learning strategies (Pintrich , Roeser, & DeGroot, 1994).

Wigfield and Eccles (1989) have identified test anxiety as one major motivational component within the school learning context. There is evidence to suggest that test anxiety interferes with students' ability to effectively use learning strategies while it reduces motivation (Brackney & Karabenick, 1995). Therefore, part of the variability in

the self-regulated learning to motivation association may be attributed to the amount of test anxiety present. In the current study, the effect of confounding test anxiety was extracted from the relationship between self-regulated learning and motivation. Three research questions were addressed:

1. Is student self-regulated learning similarly related to the two motivation components (competence and autonomy)?
2. Do the self-regulatory to motivation associations change when test anxiety is controlled?
3. Is there a difference between the competence to self-regulated learning and the autonomy to self-regulated learning relationships?

Method

Sample and Procedure. The participants (N=208; 122 Females 86 Males) were predominantly White, middle-class junior or senior public high school students attending a one-day university-sponsored ACT preparation workshop. All students were administered a survey assessing motivation, self-regulated learning, and test anxiety, in counterbalanced order, during the workshop.

Measures. The scale assessing self-regulated learning was obtained from Bandura's (1989) Multidimensional Scales of Perceived Self-Efficacy. The SRL subscale was designed to measure high school students' perceived capability to use various strategies, such as concentrating on school subjects, organizing schoolwork, and participating in class discussions. Students rated their self-regulated learning on eleven items according to a 7-

point scale (1 = not very well at all to 7 = very well). A coefficient alpha of .85 indicated good internal consistency reliability with this student sample.

The Worry-Emotionality Scale, which has extensive evidence of validity (Morris, Davis, & Hutchings, 1981), was used to assess test anxiety. Students responded to ten items rated along a 5-point agreement scale, where higher scores indicated greater test anxiety. Internal consistency reliability values have ranged in the .80s (Herman, 1990) which is consistent with the coefficient of .89 obtained with these adolescents.

Autonomous motivation was assessed with two items based on Deci and Ryan's (1985) definition of autonomy as the capacity to choose among several courses of action in the school context. Two items adapted from Harter's (1982) Perceived Competence Scale served to measure students' sense of being effective in the academic domain. These four items, rated according to a 5-point Likert-type scale, have been used elsewhere to measure motivational competence and autonomy (Fortier, Vallerand, & Guay, 1995).

Results

Student means and standard deviations across the eleven items comprising the SRL are presented in Table 1. These adolescents reported fairly high self-regulated learning (an overall mean of 5.14). The relatively homogeneous measures of central tendency and variability suggest that student responses were fairly consistent from item to item.

Relationships between self-regulated learning and the two motivational components were assessed with Pearson correlations (see Table 2). Both coefficients reached

statistical significance, with about 14% and 10% of the variance shared between self-regulated learning and competence and autonomy, respectively.

Partial correlation coefficients were then calculated to determine the correlation between self-regulated learning and the motivational variables with the effect of variation in test anxiety removed. As noted in Table 2, all relations were still statistically significant, with values very similar to the bivariate correlations.

The difference between the transformed (Fisher's *r* to *Z*) indices of self-regulated learning to competence, and self-regulated learning to autonomy was assessed with an independent *t* test. No significant difference was detected in this pair-wise comparison.

Discussion

Overall, students who perceived themselves to be more capable of self-regulated learning also tended to report higher levels of competence and autonomy. These results support theory suggesting that motivational perceptions tend to be linked to self-regulation (Pintrich, Roeser, & DeGroot, 1995). The reciprocal nature of the self-regulated learning to motivation association proposed by social cognitive theorists (Bandura, 1997) was also confirmed.

A lack of test anxiety has been viewed as a precursor to students' motivation and use of learning strategies (Brackney & Karabenick, 1995). Interestingly, the self-regulated learning to motivation associations reported here were not affected by test anxiety.

Pragmatically, this finding implies that school-based interventions to enhance self-regulated learning and facilitate motivation may not need to differentiate students by test anxiety.

The association between self-regulated learning and motivation did not vary with respect to the motivational component. When either competence or autonomy is perceived as unfulfilled, students tend to be less engaged in school work (Miserandino, 1996). Therefore, educators might foster students' perceptions of effectiveness or competence in the classroom while satisfying the need for autonomy by providing a choice in school activities. Both appear equally necessary to expressed self-regulated learning capabilities.

References

Bandura, A. (1989). The multidimensional self-efficacy scales. Unpublished test, Stanford University, CA.

Bandura, A. (1997). Self-Efficacy: The exercise of control. NY: W.H. Freeman.

Brackney, B.E., & Karabenick, S.A. (1995). Psychopathology and academic performance: The role of motivation and learning strategies. Journal of Counseling Psychology, 42, 456-465.

Deci, E.L., & Ryan, R.M. (1985). Intrinsic motivation and self-determination in human behavior. NY: Plenum.

Fortier, M.S., Vallerand, R.J., & Guay, F. (1995). Academic motivation and school performance: Toward a structural model. Contemporary Educational Psychology, 20, 257-274.

Harter, S. (1982). The perceived competence scale for children. Child Development, 53, 87-97.

Herman, W.E. (1990). Fear of failure as a distinctive personality trait measure of test anxiety. Journal of Research and Development in Education, 23, 180-185.

Miserandino, M. (1996). Children who do well in school: Individual differences in perceived competence and autonomy in above-average children. Journal of Educational Psychology, 88, 203-214.

Morris, L.W., Davis, M.A., & Hutchings, C.H. (1981). Cognitive and emotional components of anxiety: Literature review and a revised worry-emotionality scale. Journal of Educational Psychology, 73, 541-555.

Palmer, D.J., & Goetz, E.T. (1988). Selection and use of study strategies: The role of the studier's beliefs about self and strategies. In C.E. Weinstein, E.T. Goetz, & P.A. Alexander (Eds.), Learning and study strategies: Issues in assessment, instruction and evaluation (pp.41-62)/ San Siego, CA: Academic Press.

Pintrich, P.R., & DeGroot, E.V. (1990). Motivational and Self-Regulated Learning Components of Classroom Academic Performance. Journal of Educational Psychology, 82, 33-40.

Pintrich, P.R., Roeser, R.W., & DeGroot, E.A. (1994). Classroom and individual differences in early adolescents' motivation and self-regulated learning. Journal of Early Adolescence, 14, 139-161.

Wigfield, A., & Eccles, J. (1989). Test anxiety in elementary and secondary school students. Educational Psychologist, 24, 159-183.

Zimmerman, B.J. (1990). Self-regulated academic learning and achievement: An overview. Educational Psychologist, 25, 3-7.

Table 1 Student (N = 208) Means and Standard Deviations for Self-Efficacy of Self-Regulated Learning Items

How well can you . . .	Mean	SD
finish homework assignments by deadlines?	5.89	1.09
study when there are other interesting things to do?	.557	1.44
plan your school work?	5.43	1.29
participate in class discussions?	5.39	1.34
take class notes of class instruction?	5.26	1.31
remember information presented in class and textbooks?	5.19	1.15
concentrate on school subjects?	5.11	1.16
organize your school work?	5.05	1.78
motivate yourself to do school work	4.92	1.50
arrange a place to study without distractions?	4.87	1.50
use the library to get information for class assignments?	3.88	1.60

Note. The higher the score, the greater the perceived self-regulated learning.

Table 2 Interrelations Between Self-Regulated Learning and Perceived Academic Competence and Autonomy

	Bivariate Correlations			Partial Correlations Controlling Test Anxiety		
Motivation	r	p-value	r^2	r	p-value	r^2
Competence	.378	< .001	14%	.362	< .001	13%
Autonomy	.319	< .001	10%	.311	< .001	10%